

ABSTRACT

An HFC return path system for digital communication signals using a sampled RF word interface to headend demodulators, provides higher performance equipment at an equivalent or lower cost and more flexible and efficient interfacing and traffic multiplexing. The return path signal from the fiber optic node to the headend/hub is represented ones and zeroes, and the digital return receiver at the headend/hub includes an optical receiver for receiving the serial stream of optical ones and zeroes and converting the optical digital signal to an electrical digital signal, a deserializer for deserializing the serial stream of digital words and synchronization information into parallel digital words, a digital filter for processing the deserialized digital words to interface digitally to an application receiver and a digital interface for interfacing and forwarding the processed parallel digital words to the application receiver.

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